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S/020/61/139/002/010/017
B104/B205

24.4400

AUTHORS: Arbuzov, B. A., Tavkhelidze, A. N., and Faustov, R. N.

TITLE: The problem of the fermion mass in a γ^5 -invariant model of
the quantum-field theory

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 2, 1961, 345-347

TEXT: A model has been studied, in which a divergence is absent and the system of fermion fields interacts with the real field vector in the two-dimensional space-time continuum. The model of interaction of a massless fermion with vectorial mesons having a mass has been discussed in several articles (V. Glaser, B. Jakšić, Nuovo Cim., 11, 877 (1959); I. Soln, Nuovo Cim., 18, 914 (1960)). It could be shown that, by using a canonical transformation, this model can be transformed into a problem without interaction. Therefore, the Green function has no poles other than $p^2 = 0$. This method is applied here since the results obtained can be compared with exact calculations. The Lagrangian of the system under consideration reads

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$$\begin{aligned}
 \mathcal{L}(x) &= \mathcal{L}_0(x) + \mathcal{L}_1(x), \\
 \mathcal{L}_0(x) &= \frac{i}{2} \sum_n \left\{ : \bar{\psi}(x) \gamma^n \frac{\partial \psi}{\partial x^n} : - : \frac{\partial \bar{\psi}}{\partial x^n} \gamma^n \psi(x) : \right\} - \\
 &\quad - \frac{i}{2} \sum_{k,n} g^{kk} g^{nn} : \frac{\partial A_k}{\partial x^n} \frac{\partial A_k}{\partial x^n} : + \frac{\mu^2}{2} \sum_n g^{nn} : A_n(x) A_n(x) :, \\
 \mathcal{L}_1(x) &= g \sum_n : \bar{\psi}(x) \gamma^n \psi(x) A_n(x) :, \quad n, k = 0, 1.
 \end{aligned} \tag{2}$$

where ψ is the operator of the fermion field, and A_n are the operators of the real field vector. The infinitely small term $-\lambda : \bar{\psi}(x)\psi(x)$ is now introduced, and the Lagrangian is written in the form

$$\begin{aligned}
 \mathcal{L}(x) &= \mathcal{L}'_0(x) + \mathcal{L}'_1(x), \\
 \mathcal{L}'_0(x) &= \mathcal{L}_0(x) - m : \bar{\psi}(x) \psi(x) :, \\
 \mathcal{L}'_1(x) &= \mathcal{L}_1(x) + (m - \lambda) : \bar{\psi}(x) \psi(x) :.
 \end{aligned} \tag{3}$$

The requirement that the total of mass corrections be zero leads to the
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equation $\sum(p) \Big|_{\frac{p^2}{m^2} = 1} = \lambda - m + \sum^*(p) \Big|_{\frac{p^2}{m^2} = 1} = 0$, where $\sum(p)$ is the total mass operator obtained from the interaction Lagrangian \mathcal{L}_I . This equation is called the compensation equation. Using, $\psi \rightarrow e^{\alpha\gamma^5}\psi$,

$\bar{\psi} \rightarrow \bar{\psi}e^{\alpha\gamma^5}$, and (3), it can be shown that the compensation equation is invariant with respect to the group of γ^5 -invariant transformations. For the compensation equation one obtains:

$m \exp\left\{-\frac{g^2}{2\pi\mu} \ln(\mu^2/m^2)\right\} = 0$. This relation has only zero solutions, as

follows from the exact solution of the model. The method described here is applied to a two-fermion model with vectorial coupling and with the interaction Lagrangian

$$\mathcal{L}_I = \sum_n : \left\{ g_1 \bar{\psi} \gamma^n \psi + g_2 \bar{x} \gamma^n x + \frac{g}{\sqrt{2}} (\bar{x} \gamma^n \psi + \bar{\psi} \gamma^n x) \right\} A_n : . \quad (7)$$

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ψ and χ are the operators of the two different spin fields. As compensation equations one obtains

$$\Sigma_1(p) \Big|_{p^2=m_1^2} = \lambda_1 - m_1 + \Sigma_1^*(p) \Big|_{p^2=m_1^2} = 0, \quad (8)$$

$$\Sigma_2(p) \Big|_{p^2=m_2^2} = \lambda_2 - m_2 + \Sigma_2^*(p) \Big|_{p^2=m_2^2} = 0, \quad (8.5)$$

where $\Sigma_{1,2}(p)$ are the total mass operators of the ψ and χ fields. The system

$$m_1 - \lambda_1 = \frac{g_1^2 m_1}{2\pi\mu^2} \ln \frac{\mu^2}{m_1^2} + \frac{g_2^2 m_2}{2\pi\mu^2} \ln \frac{\mu^2}{m_2^2}, \quad (9)$$

$$m_2 - \lambda_2 = \frac{g_2^2 m_2}{2\pi\mu^2} \ln \frac{\mu^2}{m_2^2} + \frac{g_1^2 m_1}{2\pi\mu^2} \ln \frac{\mu^2}{m_1^2}.$$

of compensation equations is investigated for $g_1^2/\mu^2, g_2^2/\mu^2, g_1^2/g_2^2 \ll 1$. The non-trivial solutions to these equations can be written with logarithmic

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$$\text{accuracy: } m_1^2 - m_2^2 \sim m^2 = \mu^2 \exp \left\{ - \frac{\pi \mu^2}{g_1^2 g_2^2 - g^4} (g_1^2 + g_2^2 - \sqrt{(g_1^2 - g_2^2)^2 + 4g^4}) \right\}, \quad (10).$$

$$\frac{m_1^2}{m_2^2} = \frac{g_1^2 - g_2^2 + \sqrt{(g_1^2 - g_2^2)^2 + 4g^4}}{g_2^2 - g_1^2 + \sqrt{(g_1^2 - g_2^2)^2 + 4g^4}}.$$

Here, m^2 is much greater than μ^2 , and the solution has a "superconductive" character. Within the framework of the theory of superconductivity, N. N. Bogolyubov (O model'nom gamiltoniane v teorii sverkhprovodimosti (On a Hamilton model in the theory of superconductivity)), preprint of the Joint Institute of Nuclear Research, P-511), has shown that for a Bardeen Hamilton model, the solution to the compensation equation agrees asymptotically with the exact solution. This supports the authors' opinion that the solution of the compensation equation reflects the exact solution. Academician N. N. Bogolyubov and A. A. Logunov are thanked for discussions and also for their interest in the work. There are 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc.

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The problem of the fermion mass ...

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ASSOCIATION: Ob'yedinenyyi institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

PRESENTED: February 21, 1961, by N. N. Bogolyubov, Academician

SUBMITTED: February 8, 1961

Card 6/6.

FAIFOV, R. N.

(5)

ARNOLDOV, D. A., KIADNITSKAYA, Ye. N., TENEV, D. N. and FAIFOV, R. N.

"Elastic Scattering of Λ -Hyperons and K^0 -Mesons on Hydrogen"

report presented at the Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Joint Institute for Nuclear Research
Laboratory of High Energies, Dubna, 1962

ARBUZOV, B.A.; LOGUNOV, A.A.; TAVKHELIDZE, A.N.; FAUSTOV, R.N.;
FILIPOV, A.T.; ZARUBINA, I.S.[transletor]; SARANTSEVA, V.R.,
tekhn.réd.

Regge poles and perturbation theory. Dubna, Ob"edinennyi
in-t iadernykh issledovani, 1962. 4 p.
(No subject heading)

ARBUZOV, B.A.; NGUYEN VAN K'YEU; FAUSTOV, R.N.; SARANTSEVA, V.R.,
tekhn. red.

[K_{e4} -decays and isoscalar $\bar{J}\bar{J}$ -resonance at low energies] K_{e4}
-raspady i izoskaliarnyi $\bar{J}\bar{J}$ -resonans pri maloi energii. Dubna,
Ob"edinennyi in-t iadernykh issledovani, 1962. 4 p.
(MIRA 15:12)

(Nuclear reactions) (Mesons--Decay)

ARBUZOV, B.A.; LOGUNOV, A.A.; TAVKHELIDZE, A.N.; FAUSTOV, R.N.

The asymptotic behaviour of the scattering amplitudes and
the renormalization group method. Dubna, Ob"edinennyi in-t
iadernykh issledovanii, 1962. 7 p.
(No subject heading)

S/056/62/042/004/009/037
B108/B102

AUTHORS: Arbuzov, B. A., Kladnitskaya, Ye. N., Penev, V. N.,
Faustov, R. N.

TITLE: Elastic scattering of Λ -hyperons and K_1^0 -mesons by hydrogen

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,
v. 42, no. 4, 1962, 979-984

TEXT: Λ and K_1^0 particles were obtained from interactions of π^- -mesons with a momentum of 7-8 Bev/c with hydrogen and carbon in a propane bubble chamber placed in a constant magnetic field of 13,700 oe. 20 Λ -p and 16 K_1^0 -p scattering events were selected from 70,000 photographs according to energy, momentum, and co-planarity criteria. The elastic scattering cross sections of Λ -p and K_1^0 -p interaction averaged over the entire spectrum of momenta are (36 ± 14) mb and (22 ± 9) mb, respectively. The angular distribution of K_1^0 -mesons in the c.m.s. has

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Elastic scattering of ...

a sharp maximum for forward scattering. The Λ -hyperons show a greater trend to back-scattering. This is indicative of the exchange of a scalar K-meson during Λ -p scattering. There are 5 figures.

ASSOCIATION: Ob'yedinenyyj institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: November 5, 1961

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S/056/63/044/001/055/067
B164/B102

AUTHORS: Arbuzov, B. A., Nguyen Van H'yeu, Faustov, R. N.

TITLE: K_{e4} decays and low-energy isoscalar $\pi\pi$ resonance

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 329 - 331

TEXT: This study is a supplement to the theoretical examinations by Nguyen Van H'yeu (ZhETF 44, no. 1, 162, 1963) which show that the spectra of the following decays

$$K_0 \rightarrow e^+ + \nu + \pi^- + \pi^0 \quad (1)$$

$$K^+ \rightarrow e^+ + \nu + \pi^0 + \pi^0 \quad (2)$$

$$K^+ \rightarrow e^+ + \nu + \pi^- + \pi^+ \quad (3)$$

can be completely determined by the partial amplitudes $F^l(s)$, $l = 0, 1$, of the process

$$\pi^+ + \pi^- \rightarrow K^+ + \bar{K}^- \quad (4)$$

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K_{e4} decays and low-energy...

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and by the effective K_{u2} decay constant. In the present paper, the probabilities W of the processes (1) - (3) are calculated for the following two cases on the assumption that a $K\pi$ -resonance with spin 1 exists: (a) existence of a $\pi\pi$ resonance with $I = 0, 1 = 0$ at 310 Mev and (b) for a $\pi\pi$ scattering length $\sim 2.5/m_\pi$ in the above state. Using the Mandelstam representation, (a) $W_1 = 3 \cdot 10^2 \text{ sec}^{-1}$; $W_2 = 1.5 \cdot 10^4 \text{ sec}^{-1}$; $W_3 = 3 \cdot 10^4 \text{ sec}^{-1}$; (b) $W_1 = 3 \cdot 10^2 \text{ sec}^{-1}$; $W_2 = 5 \cdot 10^2 \text{ sec}^{-1}$; $W_3 = 1.1 \cdot 10^3 \text{ sec}^{-1}$ is obtained. Since (3) is analogous to the anomalous τ -decay, an upper limit of the decay probability $W_{3\text{exp}} \leq 2.5 \cdot 10^3 \text{ sec}^{-1}$ is obtained from the experimental studies of the τ decay. Hence, the assumption of a $K\pi$ -resonance with $I = 0, 1 = 0$ at 310 Mev leads to a decay probability W_3 which is 10 times as large as the upper limit of the experimental results.

ASSOCIATION: Ob'yedinennyj institut Yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: August 4, 1962
Card 2/2

S/056/63/044/004/039/044
B102/B186

AUTHORS: Arbuzov, B. A., Logunov, A. A., Tavkhelidze, A. N.,
~~Feustov, R. N.~~, Filippov, A. T.

TITLE: A quasioptical model and the asymptotic behavior of the
scattering amplitude

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 4, 1963, 1409 - 1411

TEXT: As shown in Ref. 1 (Preprint OIVAl, E-1145, 1962), a two-particle
system may be described in quantum field theory by a Schrödinger-type equa-
tion with generalized complex potential, which in the case of scalar
particles reads

$$V^\pm(q, q', E) = \frac{1}{\pi} \int_{-\infty}^{\infty} \frac{U^\pm(E, v)}{v + (q - q')^2} dv, \quad (2).$$

This quasioptical treatment yields the scattering matrix and also the
structure of bound and resonance states. The wave function is only a func-
tion of transferred three-momenta (q, q'), and the energy

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$$(E^2 - q^2 - m^2) \psi_{\pm}(q) = \frac{1}{V(q^2 + m^2)} \int V^{\pm}(q, q'; E) \psi_{\pm}(q') d^3 q', \quad (1),$$

$V^{+}(-)$ is the potential for even (odd) states with respect to $\cos \theta$; $U(E, v)$ is the spectral function which is complex in the region $E^2 > m_1^2$. The amplitude $M(E, t)$ of the process is assumed to satisfy the dispersion relation and its projection onto even and odd states is given by

$$M^{\pm}(E, t) = \int_{-i\infty}^{i\infty} \frac{\sigma^{\pm}(E, v)}{v + (q - q')^2} dv. \quad \text{The imaginary part of } V \text{ characterizes inelastic}$$

scattering. Regge has shown that when the potential is a superposition of Yukawa potentials, the scattering amplitude with $t \rightarrow \infty$ may be given by

$$M(E, t) = g(E) f^{\alpha}(E), \quad t = -(q - q')^2, \quad (4),$$

where q and q' are initial and final momenta. It is now shown that a
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potential of type (2) leads to Regge asymptotic behavior (4). The solution of the amplitude equation

$$T^\pm(q, q') = V^\pm((q - q')^2, E) + \int \frac{v^\pm((q - p)^2, E) T^\pm(p, q')}{[(E + i\epsilon)^2 - m^2 - p^2] \sqrt{p^2 + m^2}} d^3 p. \quad (5)$$

is sought as a function like

$$T^\pm(q, q') = \frac{1}{\pi} \int_0^\infty \frac{\tau^\pm(q'^2, q^2, v)}{v - s} dv. \quad (6).$$

The equation of the spectral function τ for the asymptotic region ($s \rightarrow \infty$) has a solution of the form

$$\tau^\pm(q'^2, q^2, v, E) = \tau_a^\pm(q'^2, q^2, E) v^{a(E)}. \quad (9),$$

where τ_a will satisfy

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$$\tau_a^\pm(u, s, E) = \int R_a^\pm(u, u', s, E) \frac{\tau_a^\pm(u', s, E)}{(E^2 - m^2 - u') \sqrt{u' + m^2}} du'. \\ R_a^\pm(u, u', s, E) = \int U^\pm(E, v) dv \int_0^1 \frac{dx \cdot x^\alpha}{(1-x)^{1/2}} \frac{\theta(u' - ux - vx/(1-x))}{[u' - ux - vx/(1-x)]^{1/2}}. \quad (10).$$

From the latter relation the eigenfunction τ_α and the eigenvalue α , which is a function of E , can be determined. For $E^2 < m_1^2$, $U(E, v)$ is real and therefore also α . Eq. (6) together with (9) yields

$$T(q^2, q^2, s, E) = s^{\alpha(E)} \tau_\alpha(q^2, q^2, E) \frac{[1 + e^{-i\pi\alpha(E)}]}{\sin \pi\alpha(E)}. \quad (11)$$

for large s . A similar result is obtained from (1) in partial-wave representation.

ASSOCIATION: Ob'yedinennyj institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: January 3, 1963

Card 4/4

L 12408-63

EWT(1)/FCO(w)/BDS AFFTC/ASD/ESD-3 IJP(C)

ACCESSION NR: AP3001394

S/0020/63/150/004/0764/0766 59

AUTHOR: Arbuzov, B. A.; Logunov, A. A.; Tavkhelidze, A. N.; Faustov, R. N.TITLE: Regge poles and the Bethe-Salpeter equation

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 764-766

TOPIC TAGS: Regge poles, Bethe-Salpeter equation

ABSTRACT: The properties of Regge poles were investigated by these authors on the basis of the perturbation theory. It was also shown by them that this analysis is connected with certain difficulties. The purpose of the present work is the study of the structure of Regge singularities on the basis of an equation of the Bethe-Salpeter type. Orig. art. has: 19 equations.

ASSOCIATION: Ob'yedinennyj institut yadernykh issledovaniy (Joint Institute for Nuclear Research)

SUBMITTED: 15Nov62

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF Sov: 000

OTHER: 006

Card 1/1

NGUYEN, Van Kh'yeu[Nguyen Van-Hieu]; FAUSTOV, R.N.; SARANTSEVA, V.R.,
tekhn. ref.

[Quasi-optical potential in a model of quantum field theory]
Kvaziopticheskii potentsial v modeli kvantovoi teorii polia.
Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1963. 10 p.
(MIR 16:6)
(Potential, Theory of) (Quantum field theory)

ARBUZOV, V.A.; LOGUNOV, A.A.; TAVKHELDZE, A.N.; PAUSTOV, R.N.; FILIPPOV, A.T.

A quasi-optical model and the asymptotic behavior of the scattering amplitude. Zhur. eksp. i teor. fiz. 44 no.4:1409-1411 Ap '63.
(MIRA 16:4)

1. Ob'yedinennyi institut yadernykh issledovaniy.
(Nuclear optical models) (Scattering (Physics))

ARBUZOV, B.A.; LOGUNOV, A.A.; TAVKHELIDZE, A.N.; FAUSTOV, R.N.

Regge poles and the Bethe-Salpeter equation. Dokl. AN SSSR
150 no.4:764-766 Je '63.
(MIRA 16:6)

I. Ob'yedinennyy institut yadernykh issledovaniy. Predstavлено
akademikom I.N. Vekua.
(Quantum theory)

FEUSTOV, R.N.

Renormalization of a quasi-potential equation for a system of
two particles. Dokl. AN SSSR 156 no.6:1329-1332 Je '64.

1. Ob'yedinennyi institut yadernykh issledovaniy. Predstavleno
akademikom N.N. Bogolyubovym. (MIRA 17:8)

L 27993-66 EWT(1)/FCC GW

ACC NR: AP6016549

SOURCE CODE: UR/0387/66/000/005/0096/0104

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B

2AUTHOR: Avchyan, G. M.; Faustov, S. S.ORG: All-Union Scientific Research Institute of Geophysical Prospecting Methods
(Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki)

TITLE: The stability of viscous magnetization in variable magnetic fields

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 5, 1966, 96-104

TOPIC TAGS: geomagnetism, magnetic field, magnetic viscosity,
magnetometer

ABSTRACT: Viscous magnetization in red clay patterns of Kazan' and Tartar formations has been investigated. Patterns contained fragments of quartz, feldspar, and mica. Measurements were obtained with a highly sensitive astatic magnetometer. Viscous magnetization was removed by an installation rotating around three perpendicular axes and generating variable magnetic fields with a frequency of 50 cycles and an amplitude of 1000 oe. Viscous magnetization was characterized by the change of the vertical component, ΔInz , during a chosen time unit. A table in the original article shows the variations in the magnetic elements during two time periods. All clay patterns were classified in two groups: of weak viscosity when $\Delta Inz/Inz < 1$, and of viscous magnetization when $\Delta Inz/Inz > 1$, where Inz is the initial vertical component. The rate of change of the declination of the magnetic vector representing the primary

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UDC: 550.382.3

L 27993-66

ACC NR: AP6016549

0

and secondary magnetization determines the removal of the secondary magnetization. The coaction of changes is represented graphically in the original article. Some patterns show different rates of change which are explained by the equal stabilities of primary and secondary magnetization. The viscous magnetization of patterns increases linearly with time. Patterns taken from the Vyatka river basin have viscous magnetization which can be stable or unstable. The stability of viscous magnetization depends upon the speed of growth increase. The greater the increase of magnetization in a time unit, the more stable the viscous magnetization in variable magnetic fields. Orig. art. has: 7 figures and 1 table.

[EG]

SUB CODE: .08/ SUBM DATE: 30Jun65/ ORIG REF: 007/ OTH REF: 006/ ATD PRESS: 426

Card 2/2 CC

L 60171-65

ACCESSION NR: AP5018231

UR/0348/65/000/007/0052/0053

632.4:634.2

13

B

AUTHOR: Faustov, V.

TITLE: Coccomyces hiemalis in cherries and mazzards

SOURCE: Zashchita rasteniy ot vreditalej i bolezney, no. 7, 1965, 52-53

TOPIC TAGS: Coccomyces hiemalis infection, cherry, mazzard, coccomycosis, orchard spraying, fungicide

ABSTRACT: Scattered cases of Coccomyces hiemalis infection were first noticed in cherries at the nursery of the "Pamyat' Il'icha" sovkhoz ("Memory of Ilyish" State Farm) of the Moscow oblast' in 1961. In 1963-1964 the disease became quite widespread and 1% Bordeaux mixture was used to control it. The author notes that it is especially important to destroy the winter stage of the fungus, and suggests spraying 3-8 times at 4-15 day intervals from the end of June or beginning of July, followed by treatment of the soil in the fall with 2-3% copper sulfate. The article also describes various forms and stages of the disease. The author points out that plum seedlings are more Coccomyces

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L 60171-65

ACCESSION NR: AP5018231

resistant than cherry seedlings.

ASSOCIATION:Sovkhoz "Pamyat' Il'iicha", Moscow oblast' ("Memory of Ilyich" State Farm)

SUBMITTED: 00

ENCL: 00

SUB CODE: LS, GO

NO REF SOV: 000

OTHER: 000

Card *dm* 2/2

SIMSON, Ivan Iosifovich; NOVOZHILOV, V.I., retsenzent; FAUSTOV, V.A.,
retsenzent; SHVEDOV, V.N., red.; SIDEL'NIKOVA, L.A., red.
izd-va; REYZMAN, Ye.Ya., tekhn.red.

[Safety engineering and fire prevention techniques at sawmills
and woodworking enterprises] Tekhnika bezopasnosti i protivo-
pozharnaya tekhnika na lesopil'nykh i derevoobrabatyvaiushchikh
predpriatiakh. Moskva, Goslesbumizdat, 1958. 316 p.

(MIRA 12:7)

(Woodworking industries--Safety measures)

FAUSTOV, V.S.; ZOTIN, A.I.

Change in combustion heats of fish and amphibian eggs during their development. Dokl. AN SSSR 162 no.4:965-968 Jo '65. (MIRA 18:5)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Submitted July 13, 1964.

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5

GUKOVA, M.M., kand.biologicheskikh nauk; FAUSTOV, V.V.

Stimulative effect of gibberellin [with summary in English].
Izv. TSKhA no.2:114-128 '61
(Gibberellin) (MIRA 14:8)

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5"

GUKOVA, M.M., kand.biologicheskikh nauk; FAUSTOV, V.V.

Gibberellin and auxin metabolism in plants. Izv. TSKHA
no.2:47-56 '62. (MIRA 15:9)
(Growth promoting substances)
(Plants—Metabolism)

BONDARENKO, A.; FAUSTOV, V. V. agronom-pitomnikovod

Coccomyces infection of sour and sweet cherries. Zashch. rast.
ot vred. i bol. 10 no. 7:52-53 '65. (MIRA 18:10)

1. Moldavskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta zashchity rasteniy, Kishinev (for Bondarenko).
2. Sovkhoz "Pamyat' Il'icha", Moskovskoy oblasti (for Faustov).

FAUSTOV, V.V., agronom-sadovod

Effect of mineral nutrition on the winter hardiness of
gooseberries. Agrobiologija no.2:289-290 Mr-Ap '65.
(MIRA 18:11)

1. Sovkhoz "Pamyat' Il'iicha "Mytishchinskogo proizvodstvennogo
upravleniya, Moskovskaya oblast'.

PANFILOVA, Z.Ye.; ROKHLIN, M.I.; RODIONOV, I.S.; FAUSTOVA, D.G.;
GOL'DSHTEYN, D.S.; GORODINSKIY, S.M., red.; TIKHOMIROV,
V.B., red.; PODOSHVINA, V.A., red.; VLASOVA, N.A., tekhn.
red.

[Protective coatings in atomic engineering] Zashchitnye po-
krytiia v atomnoi tekhnike; sbornik statei. Moskva, Gos-
atomizdat, 1963. 183 p. (MIRA 16:12)
(Shielding (Radiation))

ACCESSION NR: AT4017002

S/3057/63/000/000/0137/0143

AUTHOR: By*khovskiy, A. V.; Faustova, D. G.

TITLE: Problems of creating anti-radon shieldings and regular checking of their efficiency

SOURCE: Zashchitnye pokrytiya v atomnoy tekhnike (Shielding in nuclear engineering); sbornik statey. Moscow, Gosatomizdat, 1963, 137-143

TOPIC TAGS: shielding, atomic reactor, atomic reactor shielding, radon shielding, mine shielding

ABSTRACT: The problem of shieldings is important not only in atomic reactors, but also in mines. The allowable concentration of radon in the air should not exceed $3 \cdot 10^{-11}$ curies per liter, and for mines $1 \cdot 10^{-10}$ curies per liter. The problem of radon purification is therefore one of the most important hygienic problems in mining. Two methods can be used: either the elimination of the radon entry into the mine or the removal of radon by an exhaust using fresh air. The latter method has been most often used in mines. The entry of radon can be limited by shielding materials at the mine face. Cement mortar, concrete, grout, tars, latex, and bituminous latex emulsions are used for coating these materials. Shafts not being used must be isolated. Usually

Card 1/2

ACCESSION NR: AT4017002

permanent shafts are of concrete and temporary ones of polymers. The polymers prevent 98-99% of the radon from entering the mine shaft. In addition, these shafts can be placed over concrete surfaces for better protection. A "Crystal" scintillograph is used for measuring the radon concentration.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 20Feb64

ENCL: 00

SUB CODE: NP

NO REF Sov: 004

OTHER: 005

Card 2/2

KORINA, N.A.; FAUSTOVA, M.A.

Microstructure of glacial deposits. Pochvovedenie no.9:57-65
Ag [i. e. S] '63. (MIRA 16:10)

1. Institut geografii AN SSSR.
(Mikulino region (Smolensk Province)--Moraines)

CHEBOTAREVA, N.S.; FAUSTOVA, M.A.

The Second Interdepartmental Conference on the Study of the
Marginal Formation of Continental Glaciation. Izv. AN SSSR.
Ser. geog. no.5:123-127 S-0 '64.

(MIRA 17:11)

MOROZOVA, T.D.; FAUSTOVA, M.A.

Microstructure of optically oriented clays in soils and unconsolidated sediments. Izv. AN SSSR. Ser. geog. no.5:90-99 S-0 '65.

(MIRA 18:10)

1. Institut geografii AN SSSR.

FAUSTOVA, YE M.

Boron trifluoride as a catalyst in organic chemistry. IX. Alkylation of α - and β -chlorophenols by 2-pentene in the presence of boron trifluoride etherate. S. V. Zaykovskii and E. M. Faustova (State Univ. Voronezh). Zhur. Obrabotki Khim. 23, 1631-4 (1953); cf. C.A. 48, 5138b. 2-Pentene was added to an ice-cooled mixt. of the chlorophenol and $BF_3 \cdot Et_2O$, the mixt. either kept at room temp. or heated on a steam bath to complete the reaction, washed with 5% NaOH to sep. phenolic products, and the material isolated by distn. α -Cl₂C₆H₄OH (12.73 g.), 0.44 g. 2-pentene, and 1.00 g. catalyst after 5 days at room temp. gave 34.3% ethereal products, b.p. 50-123°, and 7.78% phenolic products, b.p. 180-250°. Heating such a mixt. 4-16 hrs. at 95-7° gave 27-35% ethereal products and 12-23% phenolic products. Generally the yield of the former rises with the temp., if the reaction is allowed to proceed only a few hrs.; longer heating results in a decline of ethereal products because of isomerization. The ρ -ClC₆H₄OH reaction gave similar results. An excess of phenol over the olefin decreases the total yield of products; excess of the olefin improves the yields. Fractionation of the crude products obtained above resulted in isolation of the individual substances listed below ($R = MePrCH_2$; b.p./mm. d_4^2 , and n_D^{20} given). Derivs. of α -ClC₆H₄OH: $ClC_6H_4CO_2H$, 137-40°/11, 1.0831, 1.4230; ClC_6H_4OR , 121-4°/10, 0.9914, 1.4010; $Cl_2C_6H_4OR$, 140-4°/10, 0.9854, 1.5052; unidentified product, 185-3°/10, 0.9334, 1.8012, contg. 5.1% Cl. Derivs. of ρ -ClC₆H₄OH: $ClC_6H_4CO_2H$, b.p. 130-1°, m. 81°, n_D^{20} 1.5308; 4,4'-Cl₂C₆H₄O₂R, b.p. 147-52°, d_4^2 0.9808, n_D^{20} 1.4070. O. M. K.

CZECHOSLOVAKIA/Cultivated Plants. Ornamental.

M-8

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91891

Author : Faustus, Ludek

Inst :

Title : Plants of the Taxodium Family in the Parks of Czechoslovakia.

Orig Pub : Ziva, 1957, 5, No 6, 214-216.

Abstract : This study describes the conditions of vegetation and the growth characteristics of *Taxodium distichum* Rich., *T. mucronatum* Ten., *Sequoia sempervirens* Endl., *Cryptomeria japonica* Don. and *Sciadopitys verticillata* Sieb. et Zucc. in the parks of Czechoslovakia.

Card 1/1

BOSZORMENYI, Miklos, dr.; FAUSZT, Imre, dr.; BARABAS, Mihaly, dr.; BARATH, Iren, dr.; MARTON Sandor, dr.; SERI, Istvan, dr.

Contribution to the choice of the most effective doses of streptomycin in pulmonary tuberculosis. Tuberkulozis 14 no.9:264-267 S '61.

(STREPTOMYCIN ther)

FAUST, Imre, dr.

~~Early results of pneumoperitoneum. Tuberk. kerdesei 8 no.5:
139-143 Oct 55.~~

1. A hegyfalu megyei tuberkulitorium (igazgato-foorvos:

Faust, Imre, dr.). koslemenye.

(PNEUMOPERITONEUM, ARTIFICIAL, ther. use

tuberc., pulm., with chemother., results (Hun))

(TUBERCULOSIS, PULMONARY, ther.

artif. pneumoperitoneum with chemother., results (Hun))

FAUSZT, Imre, dr.

Data on clinical resistance. Tuberkulosis 10 no.1-2:33-35
Jan-Feb 57.

1. A hagyfalui megyei tudosszánatorium (igazgató-foorvos:
Fauszt, Imre, dr.) műsléménye.
(TUBERCULOSIS, PULMONARY, ther.
chemother., clin. resist. (Hun))

FAUSZT, Imre, dr., foorvos

Discoveries of Robert Koch and the present-day fight against
tuberculosis. Elovilag 5 no.2:44-47 Ap-Je '60.

FAUSZT, Imre, dr.; LEVENDEL, Lasslo, dr.

Studies on the relationship between body constitution and type
of the nervous system in tuberculous patients. Tuberkulosis
13 no.1:4-6 Ja '60.

1. Az Orszagos Koranyi Tbc Intezet (igazgato: Boszormenyi, Miklos,
dr. kandidatus; tud. vezeto: Foldes, Istvan, dr. kandidatus) kozlemenye.
(TUBERCULOUS PATIENTS)
(BODY CONSTITUTION)
(NERVOUS SYSTEM physiol.)

BOSZORMENYI, Miklos, dr.; FAUSZT, Imre, dr.; BARABAS, Mihaly, dr.; BARAT, Iren, dr.; JAKAB, Zoltan, dr.; MAJZIK, Gabor, dr.; SCHWEIGER, Otto, dr.

The choice of drug to be combined with INH in the initial drug therapy of tuberculosis patients. Tuberkulosis 15 no.12:360-364 D '62.

1. Az Orszagos Koranyi Tbc Intezet (igazgato Foldes Istvan dr.) a Matrahazai Allami Tbc Gyogyintezet (igazgato foorvos: Lanyi Andor dr.) es a Csakvari Tbc Gyogyintezet (igazgato foorvos: Majzik Gabor dr.) kozlemenye.
(ISONIAZID) (STREPTOMYCIN) (AMINOSALICYCLIC ACID)
(THIOSEMICARBAZONES) (TUBERCULOSIS, PULMONARY)

BOSZORMENYI, M., dr.; FAUSZT, I., dr.; KANITZ, E., dr.; SCHWEIGER, O., dr.

Combined drug therapy of pulmonary tuberculosis. Ther. Hung. 12
no.2:9-14 '63.

1. National Koranyi Institute for Tuberculosis, Budapest.
(TUBERCULOSIS, PULMONARY) (STREPTOMYCIN)
(ISONIAZID) (AMINOSALICYLIC ACID)

HUNGARY

BOLGÖKEMÉNYI, Márk, Dr, FAMZS, Imre, Dr; National Koranyi Io Institute
(Orszagos Koranyi Tbc. Intezet).

"The Importance of Control Groups in Clinical Mass Examinations."

Budapest, Orvosi Hetilap, Vol 104, No 15, 14 Apr 63, pages 673-683.

Abstract: The authors discuss the importance and requirements of blind and double-blind tests of drugs. Controlled experiments conducted in Tb institutes with INH+STM, INH+STM+PAS, INH+PAS, INH+TbI are discussed at length and the results are tabulated with reference to age, duration of the disease, pathological form of the disease and in terms of the whole participating group. The authors stress that controlled mass tests are the only reliable scientific method for the evaluation of new drugs. 7 Eastern European, 9 Western references.

5/1

MATUSAN, Josip, dr.; FAUVERT, Rene, dr.

Value of scintigraphy in the diagnostic examination of the liver. Lijecn. vjesn. 86 no.2:201-207 F'64

1. Iz Internog odjela Opce bolnice u Splitu i Odjela za radio-izotope bolnice Beaujon-Clichy u Parizu.

5

FAUZI, Mokhamed; KARTININ, B.N.; CHERNOZHUKOV, N.I.

Effect of the depth of phenol purification of residual oil
on the characteristics of dewaxing. Izv. vys. ucheb. zav.;
neft' i gaz 6 no.8:61-64 '63. (MIRA 17:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promysh-
lennosti imeni akademika I.M. Gubkina.

FAUZI, Mokhamed; KARTININ, B.N.; CHERNOZHUKOV, N.I.

Effect of certain depressants on the nature of the
crystallization of solid hydrocarbons in the d-waxing of
residual raffinates. Izv.vys.ucheb.zav.; neft' i gaz 6 no.
12:61-63 '63. (MIRA 17:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlen-
nosti im. akademika I.M.Gubkina.

S/152/63/000/003/002/005
B117/B186

AUTHORS: Fauzi, M. A., Kartinin, B. N., Chernozhukov, N. I.

TITLE: Effect of deparaffination conditions on the crystallization character of solid hydrocarbons of residual oil

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 3, 1963, 59-64

TEXT: The conditions of deparaffination were studied for the residual refined product ($d_4^{20} = 0.8865$, $v_{100^\circ C} = 14.91 \text{ cm}^3$ (c. c. ?), solidifying point $+51^\circ C$, coking capacity 0.3%) of Tuymazy petroleum; solvent: toluene mixtures with 20-60% acetone, or 40-80% MEK (MEK); weight ratio oil : solvent 1:3, 1:4, 1:5, heating up to $60^\circ C$; filtration temperature $-25^\circ C$; cooling rate $40-200^\circ C/\text{hr}$. Results: with increasing ketone concentration, the yield of deparaffined oil was reduced, the filtration accelerated, and the solidifying point of the oil lowered. Toluene mixtures with 40% acetone or 60% MEK were found to be optimum solvents. Electron-microscopic pictures (made for the first time for crystals of Card 1/3

S/152/63/000/003/002/005

Effect of deparaffination conditions on ... B117/B186

hexagonal structure) showed that an increase in ketone concentration led to the formation of larger, well structured crystals of solid hydrocarbons. This resulted in a higher permeability of the precipitate, which accelerated the filtration and made it easier to separate the liquid from the solid phase. An increase in the cooling rate (from 40 to 90°C/hr) led to the formation of smaller crystals, which unfavorably affected the filtration and the yield of deparaffined oil. A further increase of the cooling rate (up to 200°C/hr) had no effect on the size of crystals.

Therefore the mean cooling rate should not exceed 60°C/hr; a rate of about 40°C/hr is recommended for the beginning of crystallization, followed by a faster cooling at the final stage. Repeated dilution of the raw material favorably affects the microstructure of solid hydrocarbons; less viscous liquids produce larger, well shaped crystals effecting an accelerated filtration and higher yields of the deparaffined oil. The temperature gradient is impaired by higher solubility of solid hydrocarbons with increasing solvent content. Addition of the solvent in portions is not expedient as it makes the oil more consistent during the cooling, thus retarding the crystallization process. There are 12 figures and 4 tables.

Card 2/3

S/152/63/000/003/002/005

Effect of deparaffination conditions on ... B117/B186

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti im. akad. I. M. Gubkina
(Moscow Institute of Petrochemical and Gas Industry imeni
Academician I. M. Gubkin)

SUBMITTED: June 23, 1962

Card 3/3

Favard, J.

Favard, J. Remarques sur l'approximation des fonctions continues. Acta Sci. Math. Szeged 12. Leopoldo Fejér et Frederico Riesz LXX annos natis dedicatus, Pars A, 101-104 (1950).

The author discusses the derivatives of the Bernstein polynomials and deduces various facts about polynomial approximation; for example, a function on $(-1, 1)$ with positive p th derivative can be approximated by polynomials with the same property, using only the values $f(k/n)$. As an application he deduces the differentiability properties of functions subject to restrictions on their p th differences. Finally he shows that for any dense sequence of interpolation points $\{x_k^n\}$ there is a sequence of polynomials $\{B_k^n(x)\}$ such that $\sum_{k=0}^n f(x_k^n) B_k^n(x)$ approaches a continuous $f(x)$ uniformly and is convex if $f(x)$ is convex.

R. P. Boas, Jr. (Evanston, Ill.).

Source: Mathematical Reviews,

Vol 12, No. 3.

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"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5

FAVARY, Jozsef

2d general meeting of the Photogrammetric Society of the German Democratic Republic. Good kart 14 no.1:50-52 '62.

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5"

FAVARY, Jozsef

Some current problems relating to the single-image photo-
grammetry. Geod kart 15 no.5:328-334 '63.

FAVARY, Jozsef; SCHRODLING, Frigyes

Making of 1:1000 scale photographic maps on the Pusztaszabolcs-Szabadegyhaza section of the Hungarian State Railways. Geod kart 15 no.5:373-374 '63.

FAVER, G.L.; KOROLEV P.A., kandidat meditsinskikh nauk, direktor; CHERNYAKOV, G.A., ispolnyayushchiy obyaznosti glavnogo vracha.

Effect of magnesic solutions of penicillin upon the culture of staphylococcus aureus; author's abstract. Zhur.mikrobiol.epid.i immun. no.2:53 F '53. (MLRA 6:5)

1. Krymskiy institut epidemiologii i mikrobiologii (for Korolev). 2. Nizhegorodskaya rayonnaya bol'nitsa (for Chernyakov). (Penicillin) (Staphylococcus)

FAVER, G. L., Candidate Tech Sci (diss) -- "Penicillin in combination with magnesium sulfate in treating acute and subacute inflammatory diseases of the female reproductive organs". Leningrad, 1958. 14 pp (Min Health RSFSR, Leningrad Sanitary-Hygiene Med Inst), 200 copies (KL, No 23, 1959, 173)

FAVER, G.L.

Comparative studies on the therapeutic activity of penicillin alone and in association with 25 % magnesium sulfate. Antibiotiki 3 no.5:117-118 S-0 '58. (MIRA 12:11)

1. Bol'nitsa Cherepovtsa, Vologodskoy obl. (glavnnyy vrach - D.F. Fregatov, nauchnyy rukovoditel' - prof.M.A.Petrov-Maslakov). (PENICILLIN, admin.

with magnesium sulfate, comparison with penicillin alone (Rus))

(MAGNESIUM SULFATE, admin.
with penicillin (Rus))

FAVER, G.L.

Prevention of pyoderma in newborn infants. Pediatriia 37 no.10:
21-22 O '59. (MIRA 13:2)

1. Iz bol'nitsey Metallurgstroya (glavnnyy vrach A.F. Zaytsev) g.
Cherepovets.
(INFANT NEWBORN dis.)
(PYODERMA in inf. & child.)

FAVER, G.L.

Problem of the use of hypertonic solutions with chemical therapeutic preparations. Antibiotiki 5 no.2:119-120 Mr-Ap '60. (MIRA 14:5)

1. Cherepovetskaya bol'nitsa Metallurgstroya (glavnnyy vrach I.V.Kol'tsov).
(ANTIBIOTICS) (HYPERTONIC SOLUTIONS)

FAVER, G. L. (Cherepovets)

Cerebral edema as one of the main causes of early infant mortality.
Akush. i gin. no.3:72-74 '61. (MIRA 14:12)

(INFANTS(NEWBORN)) (BRAIN--DISEASES) (EDEMA)

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5

FAVER, G.L. (Chernopovets)

Diagnosis of pelvis angusta. Fel'd. i akush. 26 no. 2:58-60 F '61.
(MIRA 14:4)

(PELVIS - ABNORMALITIES AND DEFORMITIES)

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5"

FAVER, G. L., kand. med. nauk

Dependence between the microbial flora of the genital tract and
the morbidity of puerperae and newborn infants. Akush. i gin.
no.2:33-35 '62. (MIRA 15:6)

(GENERATIVE ORGANS, FEMALE MICROBIOLOGY)
(INFANTS (NEWBORN)--DISEASES)
(PUERPERIUM)

FAVER, G.L. (Cherepovets)

Methods for resuscitating children born in asphyxia. Fel'd.i
akush. 27 no.7:53-56 Jl '62. (MIRA 15:9)
(ASPHYXIA) (RESUSCITATION)

FAVER, G.L. (Cherepovets)

Prevention and treatment of brain edema in newborn infants.
Vop. okh. mat. i det. 8 no. 3:85 Mr '63. (MIRA 16:5)
(INFANTS (NEWBORN)--DISEASES) (BRAIN--WOUNDS AND INJURIES)

FAVER, G.L., kand. med. nauk; ZHVAKINA, F.N.

Early diagnosis of intracranial injuries in newborn infants.
Akush. i gin. 39 no.4:111-113 Jl-Ag'63 (MIRA 16:12)

1. Iz rodil'nogo otdeleniya bol'nitsy (glavnyy vrach I.V.Kol'tsov)
Cherepovetskogo metallurgicheskogo zavoda.

FAVERMAN, E.A.; YAKUBSON, L.Z.; KASPERSKIY, Yu.B., otv. red.;
DEGTYAREVA, V., red.; KAPITSA, V., tekhn. red.

[Angina pectoris and myocardial infarction; a
bibliographical index of Soviet literature] Grudnaia
zhaba i infarkt miokarda; bibliograficheskii ukazatel'
otechestvennoi literatury. Pt.1. (1954-1959 gg.).
1961. 83 p. (MIRA 17:2)

1. Kishinev. Respublikanskaya nauchno-meditsinskaya
biblioteka. 2. Direktor Respublikanskoy nauchno-
meditsinskoy biblioteki, Kishinev Moldavskaya SSR (for
Kasperskiy).

METHODS

CZECHOSLOVAKIA

KUCEROVA, L.; HOENIG, V.; JIRSA, M.; FAVIAN, E.; 1st Internal Clinic, Faculty of General Medicine, Charles University (I. Interni Klinika Fakulty Vseobecneho Lekarstvi KU), Prague, Head (Prednosta) Prof Dr V. HOENIG; Laboratory for Pathophysiology of Blood Formation and Liver Diseases at the 1st Internal Clinic (Laborator pro Patofysiologii Krvetvorby a Jater pri I. Interni Klinice), Head (Prednosta) Prof Dr V. HOENIG.

"Determination of Albuminaemia by Means of the Sulfobromophthalein Method in Icteric Sera."

Prague, Casopis Lekaru Ceskych, Vol 105, No 19, 13 May 1966, pp 515-516

Abstract: The property of albumin to form a bond with sulfobromophthalein can be used in the determination of albumin; with increasing concentration of albumin the extinction of the added sulfobromophthalein decreases; albumin binds more of the colorless part of the sulfobromophthalein, and a new equilibrium between the colored and colorless parts of sulfobromophthalein is formed. The values found by this method correspond to those found by the electrophoresis method. 1 Figure, 7 Western, 2 Czech references.

1/1

FAVORIN, N.M.; KOSTYAKOV, A.N., redaktor; LEONT'YEVSKIY, B.B., redaktor;
ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[Irrigation canals and ground water] Orositel'nye kanaly i
gruntovye vody. Moskva, Izd-vo Akademii nauk SSSR, 1954. 90 p.
(Irrigation) (Water, Underground) (MLRA 7:12)

KOSTYAKOV, Aleksey Nikolayevich; FAVORIN, Nikolay Nikolayevich; AVER'YANOV,
Sergey Fedorovich; KOCHINA, P.Ya., otvystvennyj redaktor; PAVLENKO,
N.I., redaktor izdatel'stva; ASTAF'YEVA, T.A., tekhnicheskiy
redaktor

[The effect of irrigation systems on ground water movement; a collection of articles] Vliyanie orossitel'nykh sistem na rezhim grunto-vykh vod; sbornik. Moskva, Izd-vo Akademii nauk SSSR. Pt.1. 1956
449 p. (MLRA 10:1)

1. Chlen-korrespondent AM SSSR (for Kochina, Kostyakov)
(Irrigation) (Water, Underground)

FAVORIN, N.N.

Country : USSR
Category: Soil Science, Cultivation, Irrigation

Date: Nov. 14, 1958, No 6335

Author : Lebedev, P.M.; Zhukov, S.L.; Kostylev, N.M.

Editor : Nekrasov, N.M.

Title : Measures in the Development of Irrigation Agriculture on the Lower Volga of the Saratov Oblast.

Oric Ref: Pr. 150-1958, 1958, 3-38

Abstract: On agricultural lands of the Saratov Oblast of the USSR soil and

Card : 3/A

2-70

of the Volga-Vyatka delta of the part on which there is a distinct struggle with the salty ground water, the salinity of the irrigable soils and the great value of deposits which are in the system species. The lower reaches of the Volga are characterized by extremely small surface slopes, lack of drainage of ground waters, widely distributed salt lakes and particularly abundant concentrations of the alluvial deposits. There are reported the results of creating the areas of various soils of the established part of the ancient delta in which 180,000 thousand hectares of lands suitable for irri-

Card : 3/A

2-70

cation are planned. Of the total area of the region (including Zelenogorie and Ulyanovsk), 37% or the 22.7 million hectares are under cultivation; there is a distinct area of 105 thousand hectares which are used for increasing the scale of development and increasing the fertility of the soil; present and future irrigation canals include: the construction of the fields, reclamation and regulation of irrigation networks; irrigation, fluoridation and regulation of the ground water level by means of reducing the level of water in the irrigation network and its utilization as a collector and selector.

Card : 3/A

2-72

In addition to these, the introduction of cotton, lavender crop rotations, dry basic tillage of the soil (27-30 cm) and periodic soil treatments of 10-15 kg per ha, and the irrigation of certain clay in deep furrows. Lists of agricultural machines planned to carry out these measures are presented.

Card : 3/A

L. S. - 20. 11. 1957.

AVER'YANOV, S.P.; ALEKSANDROV, B.K.; ASKOCHENSKIY, A.N.; BLIZNYAK, Ye.B.;
ZAMARIN, Ye.A.; KOVALENKO, I.I.; KOCHINA, P.Ya.; KUZNETSOV, I.A.;
POSLAVSKIY, V.V.; SRIBNYY, M.P.; TURCHINOVICH, V.T.; FAVORIN,
N.N.; SHAROV, I.A.

Aleksei Nikolaevich Kostiakov; obituary. Izv. AN SSSR. Otd. tekhn.
nauk no.10:113-114 O '57. (MIRA 10:12)
(Kostiakov, Aleksei Nikolaevich, 1887-1957)

FAVORIN, N.N.

Ground-water regimen and balance in irrigated territories
with a low runoff rate as exemplified by the Lower Don Irriga-
tion System. Vliian.orosh.voda rezh.grunt.vod no.2:3-43
'59. (MIRA 13:2)

(Rostov Province--Irrigation)
(Water, Underground)

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5

FAVORIN, N.N.

Conference on hydraulics. Vest.AN SSSR 30 no.12:93-94 D '60.
(MIRA 13:12)
(Hydraulics--Congresses)

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R000412510012-5"

ZVONKOV, V.V., otv. red.; KUZNETSOV, I.A., kand. tekhn. nauk, red.; TUR-CHINOVICH, V.T., prof., red.; FAVORIN, N.N., kand. tekhn. nauk, red.; POPOVA, K.L., kand. tekhn. nauk, red.; KUDASHEVA, I.G., red. izd-va; GOLUB', S.P., tekhn. red.

[Control of surface and undergrond water resources and their utilization] Upravlenie poverkhnostnymi i podzemnymi vodnymi resursami i ikh ispol'zovanie. Moskva, 1961. 245 p. (MIRA 14:9)

1. Akademiya nauk SSSR. Sovet po problemam vodnogo khozyaystva.
2. Chlen-korrespondent AN SSSR(for Zvonkov).
(Hydrology)

FAVORIN, N.N., kand. tekhn. nauk; POPOVA, K.L., kand. tekhn.nauk; GONCHAROVA, N.Ya.; SYSUYEV, G.B.; ZVONKOV, V.V., otv. red.; GORSHKOV, G.B., red. izd-va; NOVICHKOVA, N.D., tekhn. red.; MATYUKHINA, L.I., tekhn. red.

[Brief survey of the research on the water resources of the U.S.S.R. performed in 1959 and 1960] Kratkii obzor nauchnykh issledovaniy po vodnomu khoziaistvu SSSR 1959-1960 gg. Moskva, 1963. 125 p. (MIRA 16:7)

1. Akademiya nauk SSSR. Sovet po problemam vodnogo khozyaystva.
2. Predsedatel' Soveta po problemam vodnogo khozyaystva AN SSSR chlen-korrespondent AN SSSR (for Zvonkov).
3. Nauchnyye sotrudniki Soveta po problemam vodnogo khozyaystva AN SSSR (for Favorin, Popova, Goncharova, Sysuyev).

(Water supply)

TURCHINOVICH, V.T., doktor tekhn.nauk. prof., otv. red.; KUZNETSOV,
I.A., kand. tekhn. nauk, otv. red.; FAVORIN, N.N., kand.
tekhn. nauk, red.; POPOVA, K.L., kand. tekhn. nauk, red.

[Methods for studying and utilizing water resources] Meto-
dy izuchenija i ispol'zovaniia vodnykh resursov. Moskva,
Nauka, 1964. 160 p. (MIRA 17:9)

1. Akademiya nauk SSSR. Sovet po problemam vodnogo kho-
zyaystva.

SRIIBNYY, M.F., doktor tekhn. nauk, prof., otv. red.; FAVORIN, N.N.,
kand. tekhn. nauk, otv. red.

[Research on water resources] Nauchnye raboty po vodnomu
khoziaistvu. Moskva, Nauka, 1964. 142 p.

(MIRA 18:1)

1. Akademiya nauk SSSR. Sovet po problemam vodnogo kho-
zyaystva.

C.A. FAVORIN, V.N.

3

Some particularities of the secondary electron emission from thin films of potassium chloride. V. N. FAVORIN.
Zhur. Tekh. Fiz. 20, 916-921 (1974).—The secondary electron emission coeff. α was detd. for evap'd. KCl films of different thicknesses, on Ni, under a target potential of +400 v. relative to the cathode, and a collector potential of +400 v. relative to the target. In films thinner than 0.2 μ , α is independent of the primary current intensity i ; the value of $\alpha = 0.8$, const. between 0.15 and 0.2 μ , corresponds to the true α of thin films of KCl. Below 0.15 μ , doubt to the influence of the Ni base. In films thicker than 0.2 μ , α increases with increasing thickness, owing no t This effect, detd. by the potential gradient in the film and autoelectronic emission from the metallic base, owing to insufficient depth of excitation of the elec. cond. in the KCl film by the primary electron beam, depends strongly on the previous treatment of the film with electrons and on its structure. At sufficiently high i , the secondary current becomes unstable. The films suffer rapid and irreversible disruption under the action of the primary current. The secondary current falls with increasing length of the primary irradiation. This disruption, common to films of all thicknesses, is attributed to electrolysis of KCl in the elec. field.
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SOV/51-7-5-19/21

AUTHORS: Favorin, V.N., Kozina, G.S. and Tikhonova, L.K.

TITLE: Spectral Characteristics of Electroluminescence of Certain Phosphors
Under the Conditions of Simultaneous Action of Direct and Alternating
Fields

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 5, pp 703-705 (USSR)

ABSTRACT: Two-colour phosphors of ZnS-Cu,Mn type, which emit green and yellow bands in alternating fields, as well as mixtures of 1-colour phosphors, have different electroluminescence spectra in direct and alternating fields. The spectra were obtained using a monochromator UM-2 and a photomultiplier FEU-27. Electroluminescent layers (100μ thick) were prepared from phosphors mixed with a dielectric (a mixture of melamine-formaldehyde and "resyl" resins or silico-organic lacquers). Transparent tin oxide coatings and a vacuum deposited aluminium layer served as electrodes. The direct or alternating (500 c/s) fields or both of them together were applied to the sample. It was found that in a direct field electroluminescence of a mixture of ZnS-Cu and ZnS-Cu,Mn phosphors has a maximum in the yellow region ($\lambda_{\max} = 580 \text{ m}\mu$). Under the action of an alternating field a green band is observed ($\lambda_{\max} = 510 \text{ m}\mu$). This is shown in Fig 1 and a similar behaviour of a

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Spectral Characteristics of Electroluminescence of Certain Phosphors Under the Conditions of Simultaneous Action of Direct and Alternating Fields

a two-colour phosphor ZnS-Cu,Mn is shown in Fig 2. In the case of simultaneous action of direct and alternating fields, the colour of electroluminescence depended on the ratio of the two fields (Figs 3 and 4). The analysis of Figs 3 and 4 shows that when the direct and alternating fields are applied together a rise of intensity is observed in the yellow region and the intensity of this yellow emission is higher than the sum of intensities due to the action of direct and alternating fields separately. This non-additivity suggests that, apart from the independent effects of the direct and alternating fields, there is some effect of either of these fields on the luminescence produced by the other field. There are 4 figures and 1 Dutch reference.

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SUBMITTED: March 10, 1959

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SOV/51-7-5-20/21

AUTHORS: Favorin, V.N. and Poskacheyeva, L.P.**TITLE:** Dependence of the Spectral Composition of Electroluminescence of Certain Phosphors on the Alternating Field Intensity**PERIODICAL:** Optika i spektroskopiya, 1959, Vol 7, Nr 5, pp 706-709 (USSR)**ABSTRACT:** Oranovskiy and Trapeznikova found in 1957 that the colour of electroluminescence depends on the applied alternating-field intensity in ZnS-Cu,Mn type (two-colour) phosphors. The present paper reports a study of the electroluminescence spectrum of ZnS-Cu,Mn phosphors in alternating fields. The spectra were obtained with a monochromator UM-2 and a photomultiplier FEU-32. Luminance (brightness) was measured with a selenium photocell whose sensitivity was reduced to that of a human eye by means of a light filter. Measurements were made on solid luminescent layers in capacitors 70-100 μ thick. The results are shown in Figs 1-3. The spectra shown in these figures were obtained using fields of 600 (Fig 1), 60 (Fig 2), and 200 c/s (Fig 3) and applied voltages from 300 to 1100 V. The authors recorded also the spectral and luminance characteristics of a mixture of green (ZnS-Cu) and yellow (ZnS-Cu,Mn) phosphors. The mixture was prepared by simple mechanical intermingling of powders of the two phosphors and the spectra obtained using 200 c/s, 400-1300 V voltages are shown in Fig 5.

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APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000412510012-5
SOV/51-7-5-20/21
Dependence of the Spectral Composition of Electroluminescence of Certain Phosphors on the Alternating Field Intensity

The spectra of each of the components of this phosphor mixture are shown separately in Fig 6. The authors found that the intensities of the yellow band, due to manganese, and the green band, due to copper, are affected by voltage in different ways. These intensities depend on whether emission acts of both types occur in one crystal or whether Mn and Cu centres occur in different crystals. The authors observed also that the intensity of the yellow band rises with the applied voltage faster than that of the green band. It was also found that lack of the effect of one type of centres on the other centres is due to the difference of the de-excitation mechanism of the green (copper) and yellow (manganese) centres. There are 6 figures.

SUBMITTED: March 10, 1959

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AUTHORS: Kozina, G.S., Favorin, V.N. and Anisimova, I.D.TITLE: Electroluminescence Brightness Waves Under the Conditions
of Simultaneous Action of DC and AC FieldsPERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2,
pp 218 - 223 (USSR)ABSTRACT: The authors report results of an investigation of the electroluminescence brightness waves of green (ZnS-Cu) and yellow (ZnS-Cu, Mn) phosphors excited simultaneously with AC and DC fields. Phosphor layers, 50-100 μ thick, were prepared by depositing a mixture of the phosphor and a dielectric binder on a glass plate coated with a conducting transparent film (which served as one of the electrodes). A second electrode was prepared by depositing aluminium in vacuo on top of the phosphor layer. DC and AC fields were applied to the phosphor layer using the circuit shown in Figure 1. The current through the layer was measured with an ammeter; brightness waves were recorded by means of a photomultiplier FEU-27 and two oscilloscopes connected in parallel: ENO-1 (used to measure the DC component) and

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Electroluminescence Brightness Waves Under the Conditions of
Simultaneous Action of DC and AC Fields

a double-beam instrument 2KO-721 used to compare the brightness with the voltage waves. The AC voltages were either W -shaped pulses or 100 c/s sinusoids. Distortions of the brightness waves of the yellow phosphors (Figures 3-7) on variation of the ratio of the DC and AC components of the applied voltage were found to be related to the conductivity of the phosphors. The conduction current at which distortion of the brightness waves appeared depended on the amplitude of the AC voltage. At low AC voltages distortions of the brightness waves were found even at current densities of $10^{-8} - 10^{-7} \text{ A/cm}^2$ (Figure 5a). When AC voltages were high (Figure 5b) distortions occurred at currents of $10 \mu\text{A/cm}^2$ and a rectangular form of the brightness waves was observed at currents greater than $60 \mu\text{A/cm}^2$. The observed phenomena are explained by superposition of the

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Electroluminescence Brightness Waves Under the Conditions of
Simultaneous Action of DC and AC Fields CIA-RDP86-00513R000412510012-5

non-additive effects of DC and AC fields. Distortion of the brightness waves on simultaneous application of AC and DC fields was not observed in the green phosphors (Figure 2). There are 7 figures and 5 Soviet references.

SUBMITTED: May 25, 1959

Card 3/3

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6.4780

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S/051/61/010/001/008/017
E201/E491

AUTHORS: Favorin, V.N. and Kozina, G.S.

TITLE: Electroluminescence of ZnS:Cu:Mn powders in a Constant Electric Field

PERIODICAL: Optika i spektroskopiya, 1961, Vol.10, No.1, pp.91-95

TEXT: The authors investigated d.c. electroluminescence and electrical conductivity of ZnS:Cu:Mn powders in a dielectric medium (a mixture of solid synthetic resins). Fig.1 gives the electroluminescence spectra in d.c. (curve 1) and a.c. fields of 400 c/s (curve 2) and 3000c/s (curve 3) frequencies. Fig.1 shows that the short-wavelength bands were produced in alternating fields only. It follows that in d.c. fields, electroluminescence was practically all due to manganese centres. The electroluminescence brightness B in d.c. fields and the conduction current J initially decreased with time (Fig.2). After a certain time in an applied field, both B and J reached stable values. When the electric field was removed some of the electroluminescence brightness was recovered but it fell again on a second application of a d.c. field (the right-hand part of Fig.2). Card 1/3 X

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E201/E491**Electroluminescence of ZnS:Cu:Mn Powders in a Constant Electric Field**

The same occurred with the conduction current J . This behaviour indicated that part of the decay of B and J was due to irreversible changes in the structure of the phosphor on passing a direct current. Irreversible changes appeared also in the dependences of B and J on an applied field (Fig.3). At applied fields $E = 10^4 - 10^5 \text{ V/cm}$, it was found that $B = KE^\alpha$ and $J = ME^\beta$ (Fig.3). From this, an empirical relationship $B = LJ^\alpha/\beta$ (Fig.4) was deduced; here L is a constant coefficient. Fig.5 shows the dependence of the resistivity (ρ) on the field intensity for a mixed phosphor-dielectric layer to which an electric field was previously applied (curves 1 and 2), for a similar mixed layer without previous application of an electric field (curve 3), for a layer consisting of resins alone (curve 4) and for a pressed phosphor powder without the resin binder (curves 5 and 6). The results are explained by excitation of manganese activator centres by electrons injected at the electrodes and by luminescence on de-excitation of these centres.

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E201/E491

Electroluminescence of ZnS:Cu:Mn Powders in a Constant Electric Field

The required conductivity in the dielectric binder is produced by high field intensities. Acknowledgments are made to F.M.Pekerman and his colleagues for preparation of the phosphor powders. There are 5 figures and 4 references: 4 Soviet and 1 non-Soviet.

SUBMITTED: September 2, 1959

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Card 3/3

22169

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B104/B201

AUTHORS: Favorin, V. N., Kozina, G. S., and Anisimova, I. D.

TITLE: Study of the electroluminescence characteristics of ZnS-Cu and ZnS-Cu,Mn layers in excitation with constant and pulsed voltage

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 487-492

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiev, June 20-25, 1960. G. S. Kozina discovered in 1958 that ZnS-Cu,Mn luminophore in a solid dielectric medium has a bright luminescence with a Mn band ($\lambda_{max} = 580 \text{ m}\mu$). Typical characteristics of the yellow luminophore are presented in Fig. 1. The authors conclude from these functions that the characteristics of luminescence of this layer are in organic relationship with those of layer conductivity. The same may be said of the green luminophore. The difference between yellow and green luminophore consists in that the yellow one, which attains a brightness of

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Study of the...

some millistilbs, has a brightness that is twice as strong as that of a green luminophore. From growth of brightness in trained specimens compared with untrained ones, the authors infer an increase of the effect of voltage upon the crystal. Since, however, the average voltage on the layer is not increased thereby, this is regarded as the consequence of another distribution of the voltage between crystal and layer. An electroluminescent layer may thus be regarded as a nonlinear resistor consisting of two layers with different degree of nonlinearity. The luminescence excited by the passage of current has a brightness depending upon the current itself, the non-linearity of brightness being essentially dependent upon the nonlinearity of the resistor. Tests with voltage pulses have shown that on a voltage growth the peaks of brightness produced during the pulse front grow more slowly than brightness during the pulse duration. Η-shaped brightness waves are obtained with higher voltages. Finally, luminescence is examined under the simultaneous action of constant and alternating voltage. Two effects are indicated here, both of them leading to an increase of the integral brightness of the layer: amplification of the brightness peaks, and increase of brightness by the addition of constant luminescence. This phenomenon is very strongly marked in the yellow luminophore, but very

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weakly in the green one. Besides this additive amplification, a distinctly non-additive amplification of the luminescence peaks is also observed. This effect is stronger in the green luminophore than in the yellow one. The additive amplification of brightness in the yellow luminophore is in the range of 10^{-1} - 1 msb at a current density ranging between 10^{-5} and 10^{-3} a/cm^2 . The non-additive amplification of the brightness of the green luminophore appears at about 10^{-2} msb and the corresponding current density range of 10^{-6} - 10^{-5} a/cm^2 . With the aid of constant voltage, the brightness of green layers in an alternating field can be amplified several hundred times, and that of yellow layers more than ten times. F. M. Pekerman is thanked for his difficult work in preparing the luminophores, Z. A. Trapeznikova and her co-workers for supplying the luminophores, L. K. Tikhonova and A. V. Kapitonov for measurements. In the ensuing discussion, G. S. Kozina reports on the bright electroluminescence (first established by L. P. Poskacheyeva), observed on enamel with the green luminophore. The enamel layer with high luminophore concentration had a zinc oxide layer for an electrode. The other surface of the enamel layer was exposed to a constant electron current. The latter charged the layer

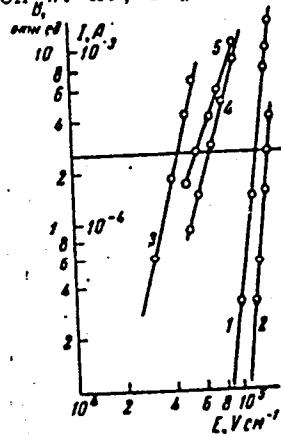
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relative to the zinc oxide base, and a bright luminescence together with layer conductivity was observed at a given polarity of the voltage (plus on the zinc oxide layer). There are 3 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The two references to English-language publications read as follows: Ref. 2: Taylor J. B., Alfrey G. F., Brit. J. Appl. Phys. Suppl., 4, 44 (1959). Ref. 6: Thornton W. A., Phys. Rev. 113, No. 5, 1187 (1959).

Legend to Fig. 1: Brightness (Curves 1, 4) and current (Curves 2, 5) as functions of the field strength for the Zn-Cu,Mn layer after training (1, 2), and prior to training (4, 5). Curve 3 represents the brightness in an alternating field.



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BAKUMENKO, V.L.; KOZINA, G.S.; FAVORIN, V.N.

Electroluminescent sublimated films of the luminophor ZnS-Cu,
Mn. Opt. i spektr. 15 no.4:486-489 O '63. (MIRA 16:11)

L 1123-66 EWT(1) IJP(c)
ACCESSION NR: AP5021145

UR/0386/65/002/001/0027/0030

AUTHOR: Bakumenko, V. L.; Vlasov, A. N.; Kovarskaya, Ye. S.; Kozina, G. S.; Favorin, V. N.

TITLE: Step excitation of fluorescence in Er³⁺-activated CaWO₄
SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
Prilozheniya, v. 2, no. 1, 1965, 27-30

TOPIC TAGS: quantum counter, infrared quantum counter, quantum action, fluorescence,
erbium doped oxide, erbium, radiation summation

ABSTRACT: Infrared quantum counter action has been discovered in Er³⁺-doped
(0.7%) CaWO₄ similar to that recently described by Brown and Shand in Er³⁺-doped
fluoride lattices (M. R. Brown, W. A. Shand, Phys. Rev. Lett., 12, 367, 1964).
Fluorescence appeared at wavelengths of about 543 m μ when the wavelength of the
first exciting flux corresponded to 1.5 m μ and that of the second to 710-850 m μ .
The effect can be produced only by the simultaneous application of the two fluxes.
The same action was observed by the authors in Er³⁺-doped (0.5%) PbMoO₄. According
to the authors the effect may lead to the transformation of infrared radiation into
visible light. Orig. art. has: 2 figures. [ZL]

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ACCESSION NR: AP5021145

ASSOCIATION: none

SUBMITTED: 20May65

ENCL: 00

SUB CODE: SS, OP

NO REF SOV: 001

OTHER: 002

ATD PRESS: 4099

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FAVORINA V.N.
Sec.8 Vol.11/4 Neuro.-Psychiatry Apr 58

1924. CLINICAL FEATURES AND PSYCHOPATHOLOGY OF ONEIRIC CATATONIA
(Russian text) - FAVORINA V.N. - ZH. NEVROPAT. PSIKHIAT. 1956,
56/12 (942-948)

The general outward signs of oneiric-catatonic states in 34 patients suffering from schizophrenia with remissions were: fluctuations in the state of consciousness - from slight confusion to complete immersion in a world of fantastic images; protracted disturbances of sleep with enhanced manifestations of oneirism during the night; inability of affect, unconnected with events in the surrounding environment (changes from melancholy to euphoria, anger, ecstasy, fear); changeability and instability of essentially catatonic symptoms with preservation of all the features characteristic of catatonia; disorientation, illusory perception of the environment, hallucinations; disconnected speech with the use of symbolic words and concepts; gradual recollection of the disturbances of the acute period. It is concluded that catatonia in patients with an oneiric state is a more or less prolonged episode in the course of the oneiric phase, preceding it and disappearing before the oneiric clouding of consciousness. Patients with the oneiric syndrome often have a distorted sense of time. True auditory hallucinations; visual hallucinations are relatively rare. The oneiric state is haphazardly interspersed with fragmentary delirious ideas. An affect of fear is almost universal. The clouded state of consciousness and the affective and catatonic disturbances constitute a favourable prognosis indicating remissions in the course of schizophrenia with oneirism.

(S)

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FAVORINA, V.N.

"Division of the endogenous psychoses" by K.Leonhard. Zhur. nevr.
i psikh. 61 no.4:631-633 '61. (MIRA 14:7)
(PSYCHOSIS) (LEONHARD, K.)